38. An optical transmission apparatus, wherein said optical module as claimed in Claim 20, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.

REMARKS

By the above amendment, minor informalities in the specification as noted by the Examiner have been corrected, claims 10-14 have been amended to be in proper multiple dependent form or to avoid improper multiple dependent claim form, and new dependent claims have been presented, reciting the features of such claims, so as to provide substantially the same scope of coverage as intended.

With regard to the objection to the drawings concerning Fig. 7 because reference characters "24" and "31" have both been used to designate a light receiving element in Fig. 7, applicants submit that the objection to the drawing Fig. 7 as more properly related to reference characters "23" and "24" and by the proposed amendment to the drawings, submitted herewith, the lead lines for such characters have been corrected so as to correspond to that illustrated in other drawings, noting that applicants consider reference "31" to be properly illustrated in such figure. Upon approval of such

drawing corrections, formal drawings incorporating the same will be submitted in accordance with the procedures provided therefor.

The rejection of claims 1-9 and 15, 16 under 35 U.S.C. §112, first paragraph, is traversed, and reconsideration and withdrawal of the rejection are respectfully requested.

In setting forth the rejection, the Examiner indicates that it would not have been clear to one of ordinary skill in the art, based on either the disclosure or the claims as originally filed, at the time the present invention was made what "a region" constitutes in both how to make the region and what material of the region is made. There are no examples given as to what the region might be.

At the outset, as described in the specification of this application, there is described at page 4, line 20 to page 5, line 6, that as shown in Fig. 1, an edge emitting/incidence type semiconductor light receiving element is provided that has a light absorbing layer 19 sandwiched between an upper 2nd core layer 18 and a lower 2nd core layer 20 and between an upper clad layer 17 and a lower clad layer 21, wherein the edge emitting/incidence type semiconductor light receiving element has a marker detecting space region (a positioning region) 24 for measuring a position marker 23 on an optical device in which the edge emitting/incidence type semiconductor light receiving element is mounted. Thus, a marker 23 as

described is used for positioning purposes for the mounting of the light receiving element, for example, and the positioning region 24 is utilized to enable a viewing or measurement of such marker 23. As described at page 5, lines 7-23, referring to Fig. 4 of the drawings of this application, for example, when the light absorbing layer 19 is formed, the crystal layers are selectively grown using a mask or the like so that a light absorbing layer 19 in the light receiving region remains present and a portion of the light absorbing layer 19 facing the positioning marker 23 on the optical device is vacated (not formed), thereby forming the space region 24 for detecting the marker 23. As further described, the light transmission rate of the illumination light or detection light which is radiated and transmits through the marker detecting space region 24 so as to detect a positioning marker 23, is configured to exceed, for example, 30% of the detection light with which the edge emitting/incidence type light receiving element is irradiated.

More particularly, referring to the description at page 9, lines 15 et. seq., a description of the formation of the basic structure of a semiconductor light receiving element as illustrated in Fig. 1 is described, with page 10, lines 18-26, setting forth that "a mask or the like is used at the time of forming the undoped InGaAlAs light absorbing layer 19, the p-InGaAlAs lower 2nd core layer 20 and the p-InAlAs lower clad

layer 21 so as to perform crystal grove in a manner in which the space region (the positioning region) 24 from which the undoped InGaAlAs light absorbing layer 19 is excluded may be formed so as to be able to detect the marker 23 on the side of the substrate." (emphasis added) Furthermore, as indicated at page 10, line 26 to page 11, line 1 of the specification, alternatively, the respective layers in the above-explained structure can be removed by etching or the like process after they are laminated, resulting in a formation of a similar structure. As pointed out at page 11, lines 2-11 of the specification, the space region is formed from which the undoped InGaAlAs light absorbing layer 19 has been excluded. Thus, it is apparent that the specification provides a detailed description of the formation of the various layers and that the space region 24 is a region at least where a portion of the light absorbing layer 19 has been excluded and is not formed during the crystal grove of such light absorbing layer and/or is etched so as to remove a portion of the light absorbing layer 19 in the manner as illustrated in the various drawings of this application. As such, applicants submit that all claims present in this application are in compliance with 35 U.S.C. §112, first paragraph, and this rejection should now be overcome.

As to the rejection of claims 1-11 and 15, 16 under 35 U.S.C. §102(e) as being anticipated by Yamada et al (USPAT

5,621,837, Yamada), this rejection is traversed, and reconsideration and withdrawal of the rejection are respectfully requested.

In setting forth the rejection, the Examiner indicates that as best the Examiner can ascertain Yamada reads on all aspects of the claimed invention. Yamada discloses in figure 10 a semiconductor light receiving element (38) having a light absorbing layer and projected onto a plain wherein the element is to be mounted.

As to the requirements to support a rejection under 35 U.S.C. §102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain

thing may result from a given set of circumstances is not sufficient.

Turning first to the claimed features of claim 1, such claim recites the feature of a semiconductor light receiving element having a light absorbing layer on a plane generally parallel to a plane with which said element is mounted on a substrate and referring to Fig. 1, there is illustrated the light receiving layer to be mounted on the substrate 26 having a marker 23 thereon, and which has a light receiving layer 19 in the manner defined. As recited, the semiconductor light receiving element is configured, such that light which is transmitted through a region having a light transmittance different from that of the light absorbing layer (the region 24) is projected within a 2-dimensional projected area of the semiconductor light receiving element which is obtained when the semiconductor light receiving element is projected onto the plane on which the element is to be mounted. Thus, claim 24 recites the feature that the region 24 has a light transmittance different from the light absorbing layer 19 and such feature is described in the specification of this application. It is noted that the light absorbing layer generally is considered to have a light transmittance of substantially 0% whereas, as described in the specification of this application, the region 24 has a light transmittance of at least 30% with respect to an illumination light for

irradiation used when the semiconductor light receiving element is mounted on the substrate. Applicants submit that the features as recited in claim 1 and the other independent and dependent claims of this application are clearly disclosed in the specification of this application, and are not disclosed or taught by Yamada in the sense of 35 U.S.C. §102.

While the Examiner points to Fig. 10 of Yamada, it is noted that the Examiner has not identified what is considered to be a light absorbing layer and assuming arguendo that a light absorbing layer is provided in Yamada on a plane generally parallel to a plane with which the element is mounted on a substrate, applicants submit that there is no disclosure or teaching that the light receiving element is configured such that light which is transmitted through a region having a light transmittance different from that of the light absorbing layer is projected in a manner as recited in claim 1. As such, applicants submit that independent claim 1 patentably distinguishes over Yamada in the sense of 35 U.S.C. §102.

As to independent claim 2, such claim recites the feature that a region is formed in a portion of the light absorbing layer and that the region has a light transmittance that is higher than a light transmittance of the light absorbing layer. Applicants submit that Yamada provides no disclosure of teaching of such claimed feature of independent claim 2.

Independent claim 7 recites features as recited in claims 1 and 2, while further reciting that an image of a positioning marker is projected inside the projected area onto which the light transmitted through the region having a light transmittance different from that of the light absorbing layer is projected. Applicants submit that Yamada fails to disclose such features in the sense of 35 U.S.C. §102. Thus, applicants submit that independent claims 1, 2 and 7 which are generally considered apparatus claims and the dependent claims thereof patentably distinguish over Yamada in the sense of 35 U.S.C. §102 and should be considered allowable thereover.

With respect to independent claims 15 and 16, which are directed to a method of fabricating an edge emitting/incidence type semiconductor light receiving element, such claims recite sequentially laminating on a substrate a plurality of different thin film layers including a light absorbing layer, wherein claim 15 recites that a thin film grove at a predetermined region is prohibited during steps of laminating the light absorbing layer and subsequent thin film layers, and claim 16 recites an etching step for illuminating the light absorbing layer existing under a predetermined region and applicants submit that Yamada provides no disclosure concerning such claimed features. Thus, applicants submit that the method claims, which features are fully described in the specification, as pointed out above, also patentably

distinguish over Yamada in the sense of 35 U.S.C. §102, and should be considered allowable thereover.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance, and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (500.38228X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Page 5, please amend the paragraph beginning at line 24 and bridging pages 24 and 25 as follows:

According to the above-described edge emitting/incidence type light receiving element of the present invention, attenuation due to the light absorbing layer 19 of the positioning detection light radiated from below is extremely small as compared with the case where the light absorbing layer 19 remains present. This makes it easier to observe the marker 23 through the light receiving element, despite that the [maker] marker 32 on the optical device is shadowed by the edge emitting/incidence type light receiving element, thereby enhancing the production efficiency.

Page 12, please amend the paragraph beginning at line 3 as follows:

The marker 23 is measured based on a difference between an amount of light transmitting through the non-transmitting portion at the edge thereof and an amount of light transmitting through the transmitting portion at the edge thereof when the detection light is irradiated at the time of positioning. However, the transmitting portion does not [permits] permit all of the incident light to pass through but

attenuates a part thereof. Here, assuming that a value of the contrast at the time when all of the incident light passes through is equal to 100%, the luminance distribution in the case of the contrast of 30% is as illustrated in FIG. 2.

IN THE CLAIMS:

Please amend claims 1, 7 and 10-14 as follows:

1. (amended) A semiconductor light receiving element having a light absorbing layer on a plane generally parallel to a plane with which said element is mounted on a substrate, said semiconductor light receiving element being configured such that light which is transmitted through a region having a light transmittance different from that of said light absorbing layer, is projected within a 2-[dimensioanl] dimensional projected area of said semiconductor light receiving element which is obtained when said semiconductor light receiving element is projected onto the plane on which said element is to be mounted.

7. (amended) A semiconductor light receiving element having a light absorbing layer on a plane generally parallel to a plane with which said element is mounted on a substrate, said semiconductor light receiving element being configured such that light which is transmitted through a region having a light transmittance different from that of said light

absorbing layer, is projected inside a 2-[dimensioanl] dimensional projected area of said light receiving element which is formed when said semiconductor light receiving element is projected onto the plane on which said element is to be mounted and an image of a positioning marker is also projected inside said projected area onto which the light transmitted through the region having a light transmittance different from that of said light absorbing layer is projected.

10. (amended) An optical module, wherein said semiconductor light receiving element is claimed in any one of claims 1 to [9] 7 is optically coupled to an optical fiber and mounted on a same substrate.

11. (amended) An optical module, wherein a semiconductor laser, an optical fiber, and said semiconductor light receiving element as claimed in any one of claims 1 to [9] 7 optically coupled to at least one of said semiconductor laser and optical fiber, are mounted on a same substrate.

12. (amended) The optical module as claimed in [either] Claim 10 [or 11], wherein said semiconductor light receiving element mounted on said substrate is configured by being packaged with either ceramic or resin.

13. (amended) The optical module as claimed in [either] Claim 10 [or 11], wherein an electronic circuit is further mounted on said substrate, said electronic circuit being configured by being packaged with either ceramic or resin.

14. (amended) An optical transmission apparatus, wherein said optical module as claimed in [any one of Claims] Claim 10 [to 13] and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.

Please add the following new claims:

--17. An optical module, wherein said semiconductor light receiving element is claimed in Claims 8 is optically coupled to an optical fiber and mounted on a same substrate.

18. An optical module, wherein said semiconductor light receiving element is claimed in claim 9 is optically coupled to an optical fiber and mounted on a same substrate.

19. An optical module, wherein a semiconductor laser, an optical fiber, and said semiconductor light receiving element as claimed in claim 8 optically coupled to at least one of

said semiconductor laser and optical fiber, are mounted on a same substrate.

20. An optical module, wherein a semiconductor laser, an optical fiber, and said semiconductor light receiving element as claimed in claim 9 optically coupled to at least one of said semiconductor laser and optical fiber, are mounted on a same substrate.

21. The optical module as claimed in Claim 11, wherein said semiconductor light receiving element mounted on said substrate is configured by being packaged with either ceramic or resin.

22. The optical module as claimed in Claim 11, wherein an electronic circuit is further mounted on said substrate, said electronic circuit being configured by being packaged with either ceramic or resin.

23. The optical module as claimed in Claim 17, wherein said semiconductor light receiving element mounted on said substrate is configured by being packaged with either ceramic or resin.

24. The optical module as claimed in Claim 18, wherein said semiconductor light receiving element mounted on said substrate is configured by being packaged with either ceramic or resin.

25. The optical module as claimed in Claim 19, wherein said semiconductor light receiving element mounted on said substrate is configured by being packaged with either ceramic or resin.

26. The optical module as claimed in Claim 20, wherein said semiconductor light receiving element mounted on said substrate is configured by being packaged with either ceramic or resin.

27. The optical module as claimed in Claim 17, wherein an electronic circuit is further mounted on said substrate, said electronic circuit being configured by being packaged with either ceramic or resin.

28. The optical module as claimed in Claim 18, wherein an electronic circuit is further mounted on said substrate, said electronic circuit being configured by being packaged with either ceramic or resin.

29. The optical module as claimed in Claim 19, wherein an electronic circuit is further mounted on said substrate, said electronic circuit being configured by being packaged with either ceramic or resin.

30. The optical module as claimed in Claim 20, wherein an electronic circuit is further mounted on said substrate, said electronic circuit being configured by being packaged with either ceramic or resin.

31. An optical transmission apparatus, wherein said optical module as claimed in Claim 10, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.

32. An optical transmission apparatus, wherein said optical module as claimed in Claim 11, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.

33. An optical transmission apparatus, wherein said optical module as claimed in Claim 12, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.

34. An optical transmission apparatus, wherein said optical module as claimed in Claim 13, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.

35. An optical transmission apparatus, wherein said optical module as claimed in Claim 17, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.

36. An optical transmission apparatus, wherein said optical module as claimed in Claim 18, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least

either processing of a sending processing and a receiving processing of a light signal.

37. An optical transmission apparatus, wherein said optical module as claimed in Claim 19, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.

38. An optical transmission apparatus, wherein said optical module as claimed in Claim 20, and an electronic circuit are mounted on a same board, said electronic circuit being connected to said optical module and executing at least either processing of a sending processing and a receiving processing of a light signal.--